DOCUMENT RESUME

ED 108 999 SO 008 398

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TITLE Images of the Future and Their Educational Significance.
PUB DATE Apr 75
NOTE 36p.; For related document, see SO 008 330

EDRS PRICE MF-$0.76 HC-$1.95 PLUS POSTAGE
DESCRIPTORS Curriculum Development; Decision Making; Educational Innovation; *Educational Objectives; Elementary Secondary Education; *Futures (of Society); Prediction; Problem Solving; Questionnaires; *Relevance (Education); Skill Development; Social Change; Social Studies; *Time; *Time Perspective

ABSTRACT

This paper examines future time perspective in relation to its influence on the present and on learning. Images of the future are culturally and socially created from past experience and knowledge, present circumstances, and views of future events which are believed to be possible. These future images are an integral part of our network of values and notions about life and reality just as the images of ourselves that we project into the future form a basic component of our present self-image. Since the velocity and impact of change has increased to the point that past-orientation has become inadequate for solving the problems of today, future studies education, with its anticipatory process skills, can help students gain an understanding of the external forces that influence their lives. Also included are guidelines for the evaluation of future imaging, a sample questionnaire designed to compile data for evaluating future imaging and its effects on learning, and a list of skills developed by future studies education. (Author/DE)

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IMAGES OF THE FUTURE AND THEIR EDUCATIONAL SIGNIFICANCE

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SP 008 398

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*Picture on title page from Looking Forward by Ralph K. Andrist and Ray Brosseau

Images of the Future and Their Educational Significance

Jake A. Plante

I. The Physiology of Anticipation

Humans and other animal species appear to possess the instinctive sensory ability to anticipate or to foresee beyond the present moment. Anticipating danger and opportunity or punishment and reward is a principle mechanism of animal survival and a major factor distinguishing animals from lower organisms including the plant world.

Distinguishing further, Man appears to be unique in His ability to extend this relatively immediate anticipation and conceptualization of duration farther into the abstraction of the time continuum. Kenneth Boulding in his book The Image describes it as follows:

> In the area of our image of space we enjoy a much more extended image than do the lower animals. Nevertheless, it is probable that our image is not different in kind. The monkey surely inhabits the same kind of three-dimensional world that we do. Our image of time, however, goes far behond that of the most intelligent of the lower animals, mainly because of our capacity for language and for record. It is doubtful whether the time image of the lower animals ever goes much beyond the immediate moment, and it is certainly confined to their own private experience. A dog has no idea that there were dogs before him and there will be dogs after him. The human being, on the other hand, is firmly located in a temporal process. He has an image of the past which extends back far beyond the limits of his own life and experience, and he likewise has an image of the future.[1]

A major force behind Man's evolution was the development of the brain's ability to grasp and test the realm of the unknown and the expected. Polak states that Man's "mental capacity to

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1. Kenneth Boulding, The Image--Knowledge in Life and Society, (University of Michigan Press, Ann Arbor, Mich., 1956) p. 25.

categorize and reorder reality within the self (present reality) and in relation to perceptions of the not-self (the Other) enable him to be a citizen of two worlds: the present and the imagined. Out of this antithesis the future is born."[2] This cognitive duality (i.e. the existent and the not-yet) permitted Man the means for developing a future time perspective capable of imagining and formulating likely and desireable long-term possibilities. Notions of immediate cause and effect were then extended into the domain of the future creating contingency and planning.

It is generally regarded that our perception of the future is a function of trained intellect. There is a large effort underway today however to show through the scientific use of energy instrumentation that psi phenomena or extra-sensory predictive abilities do exist and can be developed in humans. The surge of interest and research in bio-systems and bio-electric field effects, paraphysics, parapsychology, bio-feedback, Kirlian photography, and other related areas is growing witness to the liklihood that Man possesses precognitive abilities of which we are just becoming aware.

My use of the traditional, rational approach to futuring is not because I disbelieve in the power and potential of animal precognition but because there is inadequate scientific information and experimental reliability regarding these phenomena today. Furthermore, my primary concern is to discuss future time perspective in relation to its influence on the present, particularly as it pertains to learning, and not to necessarily formulate means by which to develop predictive aptitude.

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2. Fred Polak, The Image of the Future, (American Elsevier Pub. Co., Inc., New York, N.Y., 1973) p. 1.

II. The Future Image

Images of the future are culturally and socially created from past experience and knowledge, present circumstance, and views of future events which are believed to be possible, likely, and desireable or undesireable. Although the past, the present, and their extensions determine future images for the most part, creative imagination and conjecture are also contributing factors. The following diagram (see p. 4) illustrates the component parts of the future image.

Images of the future are not just a neutral outcome of the socialization process but a causal force which influences events by shaping the social and psychological fabric of individuals and societies. A strong relationship exists between the images we have of the future, including how we see ourself in these futures, and our "world view" and expressed behaviour. The poet Rilke said, "The future enters into us, in order to transform itself in us, long before it happens."3 In short, we live the present within the context of our future images. Our notions of the future act as a "sounding board" for the not-yet and planned behaviour just as our notions of present reality (self and Other) serve as a framework and comparator for testing the results of present behaviour.

Aside from unpremeditated or spontaneous action, decision occurs after the consideration of future-oriented questions such as: Will it work if handled this way? To what degree? What are the risks or what will be the side effects and the effects over time? and, What would be the result given different circumstances?

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3. Rainer Maria Rilke, "Letters to a Young Poet," (translated by M.D. Herter Norton, 1934)

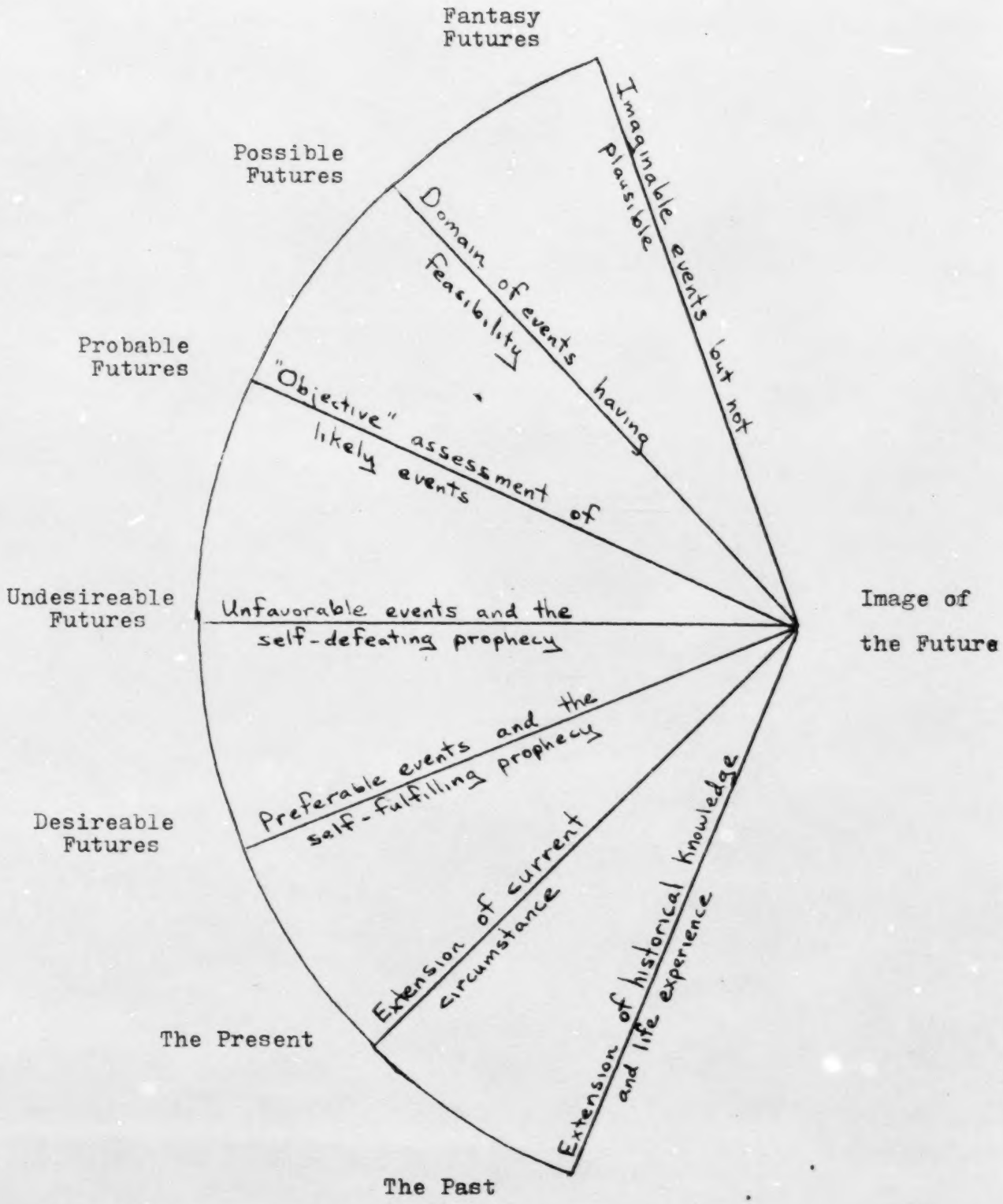

Fig. 1 Time Components of the Future Image

Hugh Prather writes:

> Not opening a can of tuna because last night's roast will spoil if I don't eat it; not changing the thermostat because later it might get too hot; not pulling over the coffee table to eat on because I will have to put it back -- I am surprised at how much I indenture myself to the future.[4]

And Robert L. Olson describes the process in his article "The Danger and Value of Futurism":

> So thinking about the future finally leads us right back to the present. We come to understand that we cannot know with any certainty what the future will be like, but we see that this does not matter: social transformation is not in the future, it can only be in the here and now, from moment to moment. Yet thinking about the future can change our lives here and now. Feeling and thinking differently, because we have scouted dangers ahead and been inspired by visions of what might be, we can set about in our daily lives to create a better future.[5]

III. Human Development of Future Time Perspective

Many theories of human development are weighted with assertions that past experience and present human needs are the two and only principle forces behind human motivation. It is my contention that anticipation and imaging of the future play a much larger role in human development, motivation, and behaviour than present psychological and social theories would suggest. Stated positively, time perspective learned in turn affects the development of personality. In other words, images of the future are a perpetual cause and effect of human development (see following diagram).

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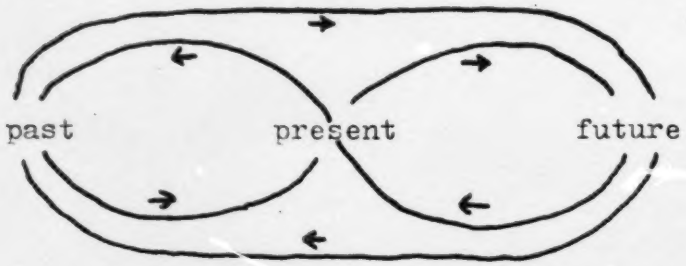
4. Prather, I Touch the Earth, the Earth Touches Me, (Doubleday & Co., Inc., Garden City, N.Y., 1972) p. 32.
5. Olson, "The Danger and Value of Futurism," (unpublished article, 1974)

Fig. 2 The Perpetual Cause and Effect of Future Imaging



To argue whether our images of the future are primarily a result or a cause of human psychology is attempting to answer a "chicken and egg" controversy. The important question is, just how much bearing does future time perspective and its images have on human development?

A variety of studies, spanning infancy through adulthood, have been done which support the premise that time perspective (and its images) affects human development. Psychologist J.E. Orme remarks:

> Studies of children's behaviour often discuss the development of the child's ideas about time. Sometimes these studies are more properly studies of the use of time words. Any generalisation from such usage to the development of time experience and concepts in general must be uncertain. But development of time appreciation and its variations must obviously be as important as that of space and its objects.6

Below is a synopsis of Orme's description of work in the area of time and psychological development in children:7

Age	Finding	Experimenter(s)
18 mo.	Infant begins to appreciate meaning of "now."	Gesell & Ilg
18 mo.	Child lives in immediate present with little, if any, appreciation of past or future.	Ames

6. Orme, Time, Experience, and Behaviour, (American Elsevier Pub. Co., Inc., New York, N.Y., 1969) p. 48.

7. Ibid., pp. 48-58.

Age	Finding	Experimenter(s)
21 mo.	Child still lives mainly in present although projection of future begins. Child developing sense of rhythm, timing, and ability to "wait."	Ames
24 mo.	Though still living very much in present, child incorporates several words denoting future time and expands vocabulary of present time. Use of past tense begins, often inaccurately.	Ames
30 mo.	Approximate 15 day memory capacity. Growing development of time appreciation is bound up with greater motor control giving child power to wait.	Croly and Dégand
30 mo.	Although vocabulary of time words limited (probably not more than 20), advance takes place in that child freely uses words implying past, present, and future time. There are still fewer "different" words for the past than the future. Finer divisions of time.	Ames
36 mo.	More new time words come into use between 30 and 36 months than any other interval. Past, present, and future are all referred to. Ames notes with interest that there are still more different words for expressing the future than for the past.	Ames
36 mo.	Consistent with the findings of Ames, they point out that although child's concepts of past, present, and future are well established they are not precise. Concept of time arises from interaction of (a) inner experiences and rhythmic needs with (b) external forces (adults—natural environment)	Schechter, Symonds, and Bernstein
Infancy	In the infant's development of time perspective, the temporal horizon is gradually pushed away from the immediate present; with particular emphasis on the future. (Pathological variations from this occur in children and adults, e.g. depressive's preoccupation with past, schizophrenic's "private" world and time, and psychopath's apparent ignoring of the future.)	Fraisse
Infancy	Lack of time discrimination in infants must increase intensity and persistence of their emotional experiences, pleasant and unpleasant, as there is no anticipation of their ending. Appreciation of the future largely develops with postponement of pleasure—"not now."	McLelland

Age	Finding	Experimenter(s)
3 1/2 yrs.	Expressions indicating past, present, and future time are used to an equal extent. Past and future tenses are now used accurately. Not so much increase in number of time words as in the refinements of their use.	Ames
4 yrs.	Past, present, and future all continue to be used freely and about equally. Many new words and expressions added.	Ames
5 & 6 yrs.	Ability to project forward increases. Greater knowledge of duration such as understanding of seasons.	Ames
8 yrs.	Child can handle extremes of time well. Understanding of years, seasons, months, clock time, etc. Advance indicated by ability to answer the question "What does time mean?"	Ames

"Although a useful guide," Orme concludes, "Ames' age levels cannot be taken too rigidly. An important observation of Ames' is the existence of marked individual variations in children's development of the sense of time. These variations moreover are not necessarily due to variations in intelligence. Furthermore, variations in familial, social, and educational emphasis on time will naturally produce some apparent advance or retardation in the child's handling of time. As yet, little is known about personality variations in children and the development of time experience and concepts."[8]

Studies have shown a strong correlation between future time perspective and the socialization—delinquency factor. Accordingly, people possessing a more "socially actualized" temporal orientation tend to have the greatest success in establishing themselves in the social order and being productive members of it.

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8. Ibid., p. 53.

Stein, Sarbin, and Kulik conducted a recent study which showed a strong relationship between a retarded future time perspective and delinquency. In their final report they observed that the delinquent role stressed "a 'philosophy' of chanciness and magic rather than a relatively definite structure, as well as having things come easily and quickly rather than through hard work and delayed reward."[9]

With regard to other variables tested against future time perspective, attempts to correlate I.Q. (Intelligence) with future time perspective have proved, on the whole, inconclusive, as has the supposed relationship between future time perspective and socio-economic status. There has been however a significant relation shown between socio-economic status and future planning suggesting that lower socio-economic groups suffer more from a deprivation of opportunities that could be achieved through planning than a retarded future time perspective.

IV. Cross-Cultural Factors and Future Time Perspective

Language and enculturation are key elements in the development of world perpsective. Cultural and linguistic relativity brings about different perceptions, arrangements, and interpretations of reality among different societies of people. At the heart of this perceptual relativity is linguistics, the window of conceptualization. Benjamin Lee Whorf strongly supports the theory that language is thought, and comments:

A person's thoughts are controlled by inexorable

9. Kenneth Stein, Theodore Sarbin, and James Kulik, "Future Time Perspective: Its Relation to the Socialization Process and the Delinquent Role," (Journal of Consulting and Clinical Psychology, Vol. 32, No. 3, 1968) p. 262.

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> laws of pattern of which he is unconscious. These patterns are the unperceived intricate systematizations of his own language--shown readily enough by a candid comparison and contrast with other languages, especially those of a different linguistic family. His thinking itself is in a language--in English, in Sanskrit, in Chinese. And every language is a vast pattern-system, different from others, in which are culturally ordained the forms and categories by which the personality not only communicates, but also analyzes nature, notices or neglects types of relationship and phenomena, channels his reasoning, and builds the house of his consciousness.[10]

Challenging Whorf's omnipotence of linguistics is the theory that people describe "experience" differently subsequent to a common experiencing of the external world. Here linguistics plays a more passive and minor role relative to conceptualization. I contend that while spatial conceptualization may be considered more universal due to the material properties of present, "action" space, that temporal conceptualization, lacking any material nature, is more subject to the variations of linguistic systematizations. This observation invites the following cultural analysis of space/time dimensions: In Western industrial society the two principal notions of space and time are separated and treated independently. Space is static, three dimensional and infinite. Time is thought of as an infinite, linear continuum of three distinct time periods; past, present, and future. By contrast, in Hopi Society "time" disappears and space is altered. In order to understand the Hopi Universe we would need to intuit manifestation and metaphysical subjectivity, notions which seem almost "mystical" to the western technological society. With regard to temporal cognizance, our "time" is Hopi "duration" and

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10. Whorf, Language, Thought and Reality, (M.I.T. Press, Cambridge, Mass., 1956) p. 252.

our objective and detached past-present-future is their manifested earlier-later.

Part of future time perspective involves the "here and now" in relation to the flow of time. For example, the Chinese take a much less egocentric temporal view than does western technological society. Their future, as part of the spiral of history, entails centuries whereas for instance, Americans generally function within more immediate futures of 1, 5, 10, 25, or 100 years at most. And to the Hopi of the American Southwest only the here-and-now is of value although to the Hopi time is not motion but a "getting later" in which duration is not spent but forever accumulated.

One of the most significant anthropological studies on time perspective was Mischel's of 1961 whereby "children on two Caribbean islands, Grenada and Trinidad, were offered a choice between small but immediate rewards or large but delayed rewards. The Grenada children preferred the large but delayed rewards, while the Trinidad children more often chose the smaller immediate reward."[11] Differences in the cultures of Grenada and Trinidad were seen by Mischel as the reason for the children's differential choices. He characterizes Grenada, with many actual delayed rewards, as a "long-term payoff" culture where promises made are usually kept and characterizes Trinidad as an "immediate reward culture" where there is less tendency to defer gratification.

Mischel's study is of great importance because it furnishes some of the primary causes underlying variations in future time perspective. Although researchers like Mischel and

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11. H. Yaker, H. Osmond, and F. Cheek, The Future of Time, (Doubleday and Co., Inc., Garden City, N.Y., 1971) p. 50.

Whorf have made notable contributions to the cross-cultural study of time perspective as it affects behaviour, hopefully more concerted efforts in this area will be made. Perhaps, as Robert J. Maxwell alludes to, a new "school of thought" centered around issues related to time perspective needs to be developed.

> Theorizing about time perspectives and time-reckoning schemes is still in the formative stage. The cross-cultural study of time has not yet even been given a name, nor have "schools" of thought about the subject emerged within the discipline. No anthropologist is known as a specialist in time studies, but individuals occasionally have devoted attention to the subject and developed ideas and concepts of considerable value to anyone seeking to understand why men perceive and order time the way they do.[12]

To a great extent, the motions and rhythms of Nature, for example day/night, seasons, and lifespans, etc., are responsible for human perceptions of time and temporal orientations. With "biological time-clocks" as the basis, cultural conditioning is a major factor in the development of time experience and appreciation. Consequently, a culture's time-orientation is internalized and unconsciously governs the behaviour of individuals and their society.

Besides cultural variations in the degree to which people "wait" or invest, there are also major differences in people's pace of living. Alvin Toffler writes:

> Each culture has its own characteristic pace. ... indifference to time can be maddening to those who are fast-paced and clock conscious. Thus Italians from Milan or Turin, the industrial cities of the North, look down upon the relatively slow-paced Sicilians, whose lives are still geared to the slower rhythms of agriculture. Swedes from Stockholm or Göteborg feel the same way about Laplanders. Americans speak with derision of

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12. Ibid., pp. 47-8.

> Mexicans for whom mañana is soon enough. In the United States itself, Northerners regard Southerners as slow-moving, and middle-class Negroes condemn working-class Negroes just up from the South for operating on "C.P.T." —Colored People's Time. In contrast, by comparison with almost anyone else, white Americans and Canadians are regarded as hustling, fast-moving go-getters.[13]

V. The Future Within World View

We all possess a "world view" or a network of values and notions about life and reality. Individual world views or "self cultures" are constructed by information gathered through the lens of our space and time perspectives. The following graph illustrates the various levels of human perspective:

Fig 3 Human Perspectives

Figure depicting space and time relationship from Limits to Growth removed to conform with copyright laws.

"Although the perspectives of the world's people vary in space and in time, every human concern falls somewhere on the space-time graph. The majority of the world's people are concerned with matters that affect only family or friends over a short period of time. Others look farther ahead in time or over a larger area - a city or a nation. Only a very few people have a global perspective that extends far into the future."[14]

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13. Toffler, Future Shock, (Bantom Books Inc., New York, N.Y., 1970) p. 41.

14. Donella Meadows et al., Limits To Growth, (Potomac Associates Book, New York, N.Y., 1974) p. 19.

A vital part of our world view comprises what I refer to as our "future view," that is, the spatial and temporal envisagement of post-present or future reality. As I have mentioned already our view of the future emerges through the facilities we have for creative imaging and the extrapolating, modeling, or correlating of the past and the present.

Years ago, time perspective was founded upon tradition. For social orders based on the intransigence of tradition, the past, present and future were basically the same. As long as things remained relatively permanent the future was safely certain. However, as the rate and impact of technological and social change increased the present became noticeably different from the past thus creating the basis for assuming that the future would be something quite different as well. Consequently, along with a "stretching" of the time continuum, singularistic notions of time were transformed into more pluralistic notions of time leaving greater uncertainty and more frightening unknowns. The need to envision the future or forecast grew correspondingly.

Therefore, as the rate of change accelerates our future view becomes an increasingly important aspect of our world view. The stability and absolutes of yesterday's Newtonian world have been uprooted and displaced by the new constants of today--perpetual change and universal relativity. And this means that in today's increasingly ephemeral and complex world, the length and scope of our future view or perspective must increase in order to withstand the seemingly rapid consumption of time.

VI. The Future Image of Self

Just as our future view is an integral part of our world view so are the images of ourselves we project into the future a basic component of our self-image. Naming this feature the "future-focused role-image," Benjamin D. Singer has written:

> Identity and time perspectives are both derived from the social systems in which we exist. Our identity is a figure which we fix against the ground of the time perspective we acquire. The resulting role conditioned by time can be called the "future-focused role-image." The FFRI is our self-image projected into the future, and it lends meaning to much of what we do in the present.
>
> We develop a self-image by empathically assuming the roles of others; this self-image feeds back on our present behavior and is more important than the evanescent stimuli that surround us and which cause short-term behavior. The self, then is not merely grounded, as psychoanalytic theory suggests, in the past, but is made up of what Erik Erikson calls "anticipated selves." Early in childhood, Erikson says, the child "tries to comprehend possible future roles, or, at any rate, to understand what roles are worth imagining ... his learning ... leads away from his own limitations and into future possibilities."
>
> The future-focused role-image varies--among persons, among social classes, among societies. It is especially important to search for its components and explain its mechanisms during a time such as this: a time of great flux, of increasing tempos, a time when our social milieu changes rapidly, as organizations disappear and emerge and roles are transformed, created and disappear, seemingly unpredictably.15

How much of our self-image is attributable to our anticipated selves is difficult to determine. For example, past successes in an area we value tend to give us greater self-confidence and self-opinion. However, success itself is evaluated on the basis of future development and potential. Thus, to

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15. Singer, "The Future-Focused Role-Image," Learning For Tomorrow, ed. Alvin Toffler, (Random House, Inc., New York, N.Y., 1974) pp. 21-2.

a large degree, self-image is dependent upon the construction and calibration of larger goals and the individual's assessment of ever achieving them. In other words, self-image is affected not only by how we are regarded and regard ourselves today but by what we see ourselves becoming and how this will be valued.

If, as it appears, future-focused role-images are an extremely important aspect of behavioural development, how then do they fashion events? Positive images of the future, for instance, can have a very strong influence on the actual course of decisions people take and the intensity with which they take them. On the other hand, a narrow view of one's alternatives or future-focused role-images can cloud the image of self and retard the ability to change appropriately. In short, the approach a person takes toward the future is a very significant factor in connection with their perception of self and world, confidence and motivation--the internal tools for betterment.

Externally, the image builders of the future, like all outstanding leaders, have a responsibility to provide inspiration and facilitation. This role must be performed carefully however because, as Fraisse asserts, "there is no future without at the same time a desire for something else and an awareness of the possibility of realizing it.' The crucial dimension in this equation is the nature of the individual's concept of 'realizability."[16] Accordingly, goals should be set high but not so high that they are put out of reach. Goals too difficult to obtain often depress productive action (more so when their value is ambiguous).

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16. Stephen Klineberg, "Changes in Outlook on the Future Between Childhood and Adolescence," (Journal of Personality and Social Psychology, VII, 1967) pp. 185-193.

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The influence which images of the future have on our life appears to wax and wane depending upon our state of well-being. Generally speaking, in "troubled" times there seems to be less willingness to invest or to wait, for tomorrow may bring even greater stress. Thus, we tend not to try our utmost if we believe tomorrow will not be, in any important way, more promising than today. Consequently, when there is little hope for the future and the here-and-now is magnified leaving immediate gratification the only rewarding alternative, dreams are unfortunately turned from practical blueprints into psychological outlets.

Aside from the more occupation-oriented roles we foresee for ourselves, an essential part of the future-focused role-image involves the view we have of our physical and family life in the coming years. We picture ourselves as we would and would not like to be through stages of life from youth to adult life to death. Many people continually ponder and assess such matters as tomorrow's love relationships, place of habitat, old age, and death so much as to almost forget that it is information feedback for life today and an "image." Images can, however, provoke the same degree of emotion as actual experience. If we can learn to use images of the future wisely, these models of future life can constructively aid us in realizing the desireable and refusing the undesireable.

VII. Generations and Images of the Future

Everyone lives within an era when events have shaped the general population's view of the future and what it will bring. These societal images of the future have a major effect on the society's reality base, its overall direction, and consequently its policy

development. The following historical account is intended to contrast distinct periods of 20th Century America based on various dominant future images which prevailed during this time.

At the turn of the Century, America had just emerged from a period of great expanse and exploration and was beginning a new era of mechanical invention that would greatly increase human control. The first quarter of the 20th Century was an extremely optimistic period in America. Fanciful visions of "Progress" and God-like freedom were advanced. Consequently, bigger, more and better were the concepts which dominated planning.

The rapid growth of industrialization, automation, and centralized government gave credibility to the forebodings of writers like George Orwell and Aldous Huxley. The art of science fiction literature blossomed.

When "The Great Depression" occurred, the balloon burst. In the hard-pressed 30's utopic visions gave way to the immediate practicalities of survival. When Franklin D. Roosevelt came to power in 1932 he was very effective, not only in reviving the economy through his recognized reform program, "The New Deal," but in successfully (through making his visions for the Nation believable thus inspiring faith in government) re-structuring an optimistic image of America's future.

The country's World War II victory catalyzed an illimitable future image once again, this time on the more sophisticated level of cybernation and advanced technology. Correspondingly, the lessons of the depression era faded from social consciousness. Due to the War, however, the future image of America was no longer a fundamentally united vision but rather one of economic and

technological growth on the one hand (global markets, space, communications, etc.) and general apprehension on the other (due principally to the awesome threat of nuclear war).

The former, more optimistic image was transformed during the 60's by Vietnam, the Civil Rights Movement, etc. and during the 70's by the Ecology Movement. This image-shattering greatly reinforced the latter outlook of anxiety and fear.

Today, the prevailing attitude might be characterized as pessimistic anticipation. In the United States and throughout much of the world the media reflect, the speeches of leaders indicate, and the polls show, a prevalent feeling of deep concern over impending world food, water, and energy shortages. We wait for disaster to strike--we are just not sure what form it will appear in--nuclear holocaust, famine, pollution and disease, natural catastrophe, or breakdown of the industrial world. At the moment many people's attitude borders on fatalism, which is not a vision of the future but an obsession with the present. And unfortunately, in a time when the United States faces an array of complex problems, it lacks the dynamic leadership needed to help its people envision solutions and attain them.

It is interesting to note that major social issues involve a confrontation between incompatible images of the future. A recent example was the SST controversy. The defeat of the American supersonic transport made the community of technical experts aware of their accountability to other segments of the society. More symbolically, it denied this group a part of their vision of tomorrow.

Although it is important that society's expectations

about the future have a degree of accuracy (neither misleading nor too simplistic), it is nonetheless important that society understand the tremendous influence which its images of the future, or perceptions of changes about to arrive, have on actual and planned events. I have tried to show, by way of this brief analysis of 20th Century America, that the particular period we live in does have a large, often subtle, effect on the course of our lives. In conclusion, because society gravitates toward what is expected to happen, I believe that societal images of the future--their nature and their self-fulfilling and self-defeating forces--have a more telling part to play in historical analysis and present social theory.

VIII. Images of the Future and Learning

> Previously, men studied the past to shed light on the present. I have turned the time-mirror around, convinced that a coherent image of the future can also shower us with valuable insights into today.[17] Alvin Toffler

Future imaging is a cyclical process. We study the future to understand what may occur, when, and with what force and effects. In turn, we use this understanding of the future to focus and to influence the decisions and events of today. Therefore, it is not enough to simply "study the future." If the future is analogous to the ocean, this would be comparable to sailing around the world unable to dock at any point along the journey. The seasoned voyager acquires perspective from his contact with other lands and cultures just as our knowledge

17. Toffler, Future Shock, (Bantam Books Inc., New York, N.Y., 1970) p. 4.

of the future gains value relative to its connections with the present.

Likewise, futurists have stressed the need to educate for the future, proclaiming that the coming years are likely to bring startling changes. Hence, the educational community should be preparing children for the new society of tomorrow which they will inherit and be responsible for. "Education has taken as its primary purpose," Eurich says, "the preparation of students for their future lives."[18] By comparison, many futurists have not done as well in showing that a richer time perspective and its greater images will have a substantial positive effect on life in the present. It is to this related purpose and orientation, I believe, that education must primarily address itself today. As for the learning process, this means that, because spatial and temporal envisagement of future reality forms an important part of world view, a student's images of the future will strongly influence their motivation, behaviour, and subsequently their learning achievement.

Understanding how future time perspective and its active counterpart, future imaging, relate to the here-and-now is of major significance to education. It is understood that an enhanced awareness of future possibilities gives a person a greater array of present options to choose from. It also has a bearing on the manner and the intensity with which a chosen option is pursued. The essential question then becomes--given a theoretical understanding of the relationship between future time perspective, its images and human development--how can we

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18. Nell Eurich, "The Humanities Face Tomorrow," Learning For Tomorrow, ed. Alvin Toffler, (Random House, Inc., New York, N.Y., 1974) p. 144.

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experimentally test the degree of influence which future imaging has on the learning process?

Although research and measurement are required, serious problems may prevent the generation of reliable data. For instance, the notion of "time" is difficult enough to conceptualize much less measure or quantify. In fact there appears to be a polarization between time perspective and quantification, a function connoting spatial dimensions. At the root of the problem lies the severe limitations placed upon our ability to conceptualize time by our inadequate philology of time. It is interesting to observe that the future is described mainly through the use of spatial and material metaphors such as "sailing around the world." We envision (it is believed that sight is the key to spatial conceptualization, hearing to temporal conceptualization) the short-term and long-term future. Furthermore, the relative unimportance of specific future dates compounds the problem of measuring the effects which future imaging has on events in the present.

Nevertheless, I do believe there are methods and approaches which could yield helpful and consistent results. The first order of business however is to determine what is "good" imaging and what is unproductive or debilitative imaging.

The goal of future imaging is to expand the time horizons of people or to free them from a time perspective that is constraining. Future time perspective is comprised of both temporal and spatial dimensions. The temporal element is the length of the time horizon or "forelook." Forelook involves such things as an understanding of when something is likely to

occur, what is possible within a given period of time, and a realistic notion of the time it takes to accomplish something. The spatial element is the breadth of the time horizon or "outlook." Outlook is the scope or array of future possibilities and alternatives we can envision and the future images themselves. Respectfully, a high quality forelook and outlook are necessary for a richly sophisticated future time perspective.

I recommend the following guidelines for the evaluation of future imaging, or "futuring":

1. The ability to extend the future time frame or developing adequate forelook. Our future time orientation may range from the present moment to ages hence. In our society the two extremes of immediacy and postponement can be psychologically and educationally debilitating in their respective ways. For example, the person who vies for immediate gratification is limiting his array of alternatives and denying the function and value of investment. On the other hand, the person who indefinitely delays action, feedback, gratification, etc. is escaping the present and limiting his alternatives as well because the longer he takes to "proact" the more his decision becomes how to react and the closer he comes to the either-or of crisis decision-making. While living in either extreme of the immediate present or the far-out future is counterproductive, our society is skewed much more toward the distortion of short-sightedness. We must re-orient our thinking toward the longer-term future.

2. The ability to increase the breadth of future vision or developing adequate outlook. The greater our knowledge of possible, probable, and preferable futures the wider will be the cognitive parameters which determine the scope of our future time perspective and our percpetions of the world.

3. The ability to develop a greater quality forelook and outlook. The future images of an enhanced future time perspective would exhibit:

    a. wholeness and thoroughness

    b. a degree of plausibility involving both internal consistency of image and a measure of external validity.

    c. greater value explicitness, the measure of the extent to which the image is dependent upon a person's value system. A balance or combination of objective and subjective conjecture is desireable. To this end,

achieving a greater awareness of the influence of personal beliefs on future imaging is important.

d. creativeness

4. The following list of "concept ranges" provides some basic criteria for the analysis of future images:

short-term -- long-term
personal -- societal
universal -- local
optimistic -- pessimistic
industrial -- agricultural, urban -- rural
technological or not, complex -- simple
work -- leisure
occupational -- domestic
clean -- polluted
peaceful -- tumultuous
free -- controlled
active, open -- passive, determined

Other questions include:

Are the images diverse or homogenous?
Are they creative or standard?
Does the individual play a major or minor part in his images of the future?
How are issues like sex, race, religion, etc. portrayed?

The following questionnaire (attached) is an initial attempt at compiling data for evaluating futuring and its effects on learning. The questionnaire was distributed to two 9th and 10th grade classes at Amherst High School. The following are two samples of student responses.

IX. Future-Oriented Education

Ideally, education should pace events rather than remain a reactor to contemporary forces. It can perform this role most successfully if it creates the learning environments that facilitate awareness within the context of the future.

Throughout this study I have tried to emphasize the need to orient ourselves to the future by developing a richer future time perspective--including a better understanding of the influence which images of the future have on the present. The

Image of the Future Questionnaire #1

The following 20 min. questionnaire involves a list of 6 question sets designed to explore your image of the future.

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Your name is not necessary however the following information is:

● male ○ female

16 age

ethnic background:
- ○ oriental
- ○ negroid
- ○ caucasian
- ○ american indian
- ○ latin
- ○ other: Blacks
- ○ do not wish to respond

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Directions: Place a ✓ "check" in the circle next to your choice(s), and answer adjoining clarification questions.

Please feel free to call me (Jake Plante, weekday - 545-0981, night - 253-5629) if you are interested in what I may learn from the questionnaire and what its intended use is.

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1. Will life in the future be primarily characterized by:

- ○ space travel
- ○ air travel
- ○ land travel
- ○ water travel
- ✓ other

In relation to the above, how do you see life as being different from what it is?
More than likely all life will be underground

How long will it take for such change(s) to occur? 25 years

How will such change(s) effect:

a. you or your family? No more fun in the sun

b. your community? Don't know

c. the nation? Communication will decrease

d. the world? Will be slightly more peace until all is completed

2. Will life in the future be primarily characterized by:

- ✓ chaos
- ○ flexibility
- ○ control
- ○ other

In relation to the above, how do you see life as being different from what it is?
Immense overpopulation, shortages (food energy, etc) mass insanity from tension

How long will it take for such change(s) to occur? 30 years

How will such change(s) effect:

a. you or your family? Fright, arming ourselves

b. your community? Mutual respect breaking down

c. the nation? Chaos will reign supreme

d. the world? SAME AS ABOVE

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3. Will life in the future be primarily characterized by the:

✓ urban environment
o suburban "
o rural "
o other "

In relation to the above, how do you see life as being different from what it is? There will probably be no open land left considering our population is suppose to double by the year 2000

How long will it take for such change(s) to occur? 25 years

How will such change(s) effect:

a. you or your family? None we are just about used to it by now

b. your community? None

c. the nation? Only the rich

d. the world? As above only the rich who are used to having wild open spaces and money

4. Will life in the future be primarily characterized by:

o extreme optimism
o slight optimism
o slight pessimism
✓ extreme pessimism

In relation to the above, how do you see life as being different from what it is? Conditions will continue to get worst because no one will have the optimism to do anything about it

How long will it take for such change(s) to occur? 15 years

How will such change(s) effect:

a. you or your family? Don't know

b. your community? Steady decline

c. the nation? " "

d. the world? " "

5. Will life in the future be primarily characterized by:

o education within schools
o education at home
o education outside of schools + home
o other

In relation to the above, how do you see life as being different from what it is?

How long will it take for such change(s) to occur? _____

How will such change(s) effect:

a. you or your family?

b. your community?

c. the nation?

d. the world? I don't know, it is possible that all education will cease

6. Will life in the future be primarily characterized by sense reception from:

o tasting	o seeing
o touching	o smelling
✓ hearing	o other

In relation to the above, how do you see life as being different from what it is? There is really nothing to see underground so our ears will become more important than our eyes

How long will it take for such change(s) to occur? 30-35 years

How will such change(s) effect:

a. you or your family?

b. your community?

c. the nation? Don't know

d. the world?

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Image of the Future Questionnaire #2

The following 20 min. questionnaire involves a list of 6 question sets designed to explore your image of the future.

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Your name is not necessary however the following information is:

✓ male o female

15 age

ethnic background:
- o oriental
- o negroid
- ✓ caucasian
- o american indian
- o latin
- o other: _____
- o do not wish to respond

****

Directions: Place a ✓ "check" in the circle next to your choice(s), and answer adjoining clarification questions.

Please feel free to call me (Jake Plante, weekday - 545-0981, night - 253-5629) if you are interested in what I may learn from the questionnaire and what its intended use is.

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1. Will life in the future be primarily characterized by:

- ✓ space travel
- o air travel
- o land travel
- o water travel
- o other

In relation to the above, how do you see life as being different from what it is?

Men May have ~~set~~ Colonized many planets of Many Stars. ~~There~~ There will be plenty of room in each world.

How long will it take for such change(s) to occur? 300+ years

How will such change(s) effect:

a. you or your family?
Normal

b. your community?
Normal

c. the nation?
Just a political subdivision

d. the world?
World Govt.

2. Will life in the future be primarily characterized by:

- o chaos
- ✓ flexibility
- o control
- o other

In relation to the above, how do you see life as being different from what it is?

There will be more personal freedoms, Broken up corporations, some govt owned Businesses.

How long will it take for such change(s) to occur? 100+years

How will such change(s) effect:

a. you or your family?
More open family affairs, More of an even Break for all.

b. your community?
~~more~~ More of an even deal for all, More Democracy

c. the nation?
More Democracy

d. the world?
Democratically controlled

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3. Will life in the future be primarily characterized by the:

- o urban environment
- o suburban "
- o rural "
- ✓ other " Miniature cities (pg. 500)

In relation to the above, how do you see life as being different from what it is?
A place to live where there is fair number of people, but everyone knows each other and the ~~war~~ other ~~is~~ ~~the~~ ~~is~~ ~~a~~ ~~book~~ better to nature.

How long will it take for such change(s) to occur? 300 years

How will such change(s) effect:

a. you or your family?
small family life, but the community
b. your community? would have somewhat as family to

c. the nation? less corruption

d. the world?
~~N~~ ~~s~~
less corruption

4. Will life in the future be primarily characterized by:

- ✓ extreme optimism
- o slight optimism
- o slight pessimism
- o extreme pessimism

In relation to the above, how do you see life as being different from what it is? Man will not need to worry about energy, raw materials, or pollution, science will continue at a rapid rate, and New and Better ways And things will be developed

How long will it take for such change(s) to occur? 300 years

How will such change(s) effect:

a. you or your family?
Happier families

b. your community?
A greater community feeling

c. the nation?
Not much

d. the world?
A kind of Patriotic Feeling

5. Will life in the future be primarily characterized by:

- o education within schools
- o education at home
- ✓ education outside of schools + home
- o other.

In relation to the above, how do you see life as being different from what it is?
People will get some basics from schools, but them will travel the Galaxy or world to learn.

How long will it take for such change(s) to occur? 300 years

How will such change(s) effect:

a. you or your family?
May be ~~m~~ ~~t~~ ~~i~~ ~~=~~ families

b. your community?
People may not always be Just in there community, but still there

c. the nation? ~~n~~ ~~t~~ there

Not Much

d. the world?
People traveling all over learning

6. Will life in the future be primarily characterized by sense reception from:

- o tasting
- o touching
- o hearing
- o seeing
- o smelling
- ✓ other

In relation to the above, how do you see life as being different from what it is?
I think people will use all of there senses, and enjoy sensing things.

How long will it take for such change(s) to occur? 500 years

How will such change(s) effect:

a. you or your family?
Not much

b. your community?
Not much

c. the nation?
Not much

d. the world?
Not much

inability of many people to "look ahead" suggests that the social system has failed to a large degree in this capacity. Much of this "shortsightedness," I believe, can be traced to the society's outmoded educational institutions and processes. In consequence, most of today's learning is, unfortunately, geared toward the transpirations of the past rather than toward the pluralities of tomorrow. (e.g. education's strong "specialist" orientation, and the generally accepted assumption that education in the future will be an extension of today's--a questionable foundation on which to base the operation and planning of education.)

Learning without regard to the future, and its relation with the present, is fragmentary and potentially injurious to both the individual and to the society. The major reason for this is because the velocity and impact of change has increased such that past-orientation has become inadequate and consequently dangerous in providing strategies for solving the critical problems of today, many of which now require novel, future-centered approaches.

Because of an insufficient understanding and overview of the world and its processes and trends, many students today appear to be having difficulty coping with a seemingly bizarre and chaotic social system. Future studies education and its comprehensive, anticipatory process skills can help students to gain this understanding and intelligently govern their behaviour thereby avoiding the hazards of letting external forces and chance decide for them. The following list suggests some of these skills:

1. A knowledge of what is probable and possible, when it may occur, and with what force and effects. For instance, because the implications of current decisions carry far into the future, solutions need to be planned out ahead of actual implementation in order to assess projected impacts. Thus, we must practice through various means, situations that will confront us before they actually do. Much of the basis of future decision-making will come from a methodology of attaining "experience of the future." Conjecture and forecasting have evolved from art into practical necessity for the individual and organization. The better these skills become the more chance there is to decide correctly in light of desired goals.

2. Greater flexibility in our perception of the future. We must learn not to ridgify ourselves and our images of the future but keep them adaptive to changing realities. Increasing personal copeability within our rapidly changing world will require learning the plurality of future possibilities rather than the singularity of The Future, a predetermined extension of today.

   Surivial will probably not be fundamentally different than it is today. People will still require food, air, water, energy, housing, love, etc. By contrast, an increasingly complex society will need individuals who can not only survive, but understand and affect it. There must still be more social contributors than social detractors. And it is possible that an even greater schism may emerge in the future between those people who live in the present within the context of the past and those who live in the present within the context of the future. We need to direct our efforts toward avoiding this destructive crisis of perspective. A forward-looking approach becomes increasingly important in an emphemeral society.

3. Developing abilities to arrange mental effort most efficiently so as to avoid information overload. Acquiring these information selectivity skills will help prevent mental and physical stress resulting from too much information too quickly. An integral part of these skills involves the ability to think comprehensively and nonlinearly with regard to the relationships of a system be it social, machine, or biological. Students must be able to synthesize data as well as analyze it and, look for unique associations between known areas or existing facts in addition to searching for entirely new data.

4. Increased understanding of the difference between desired futures and objective forecasts. This skill includes an understanding of the "self-fulfilling and self-defeating prophecies" phenomena, that is, the power which positive or negative desire can have on the outcome of events. For example, greater confidence in one's ability to achieve a goal may tip the scales in favor of its realization.

As futurists, we cannot say with certainty what tomorrow will bring for us. However, we can give people the means to cope successfully within the greatest range of possible futures and to live today with greater knowledge, confidence, and optimism. As educators, we can either choose to help students achieve a richer awareness in the present by promoting future image building and "futurizing" the various subject areas of education, or, we can choose to ignore the significant influence of future imaging, abandoning learning to the proxy of past and present forces.

Glossary of Terms

(Definitions from the Random House College Dictionary of 1973)

Myth - a belief or a subject of belief whose truth or reality is accepted uncritically (3rd def.)

Image - a mental representation; idea; conception (3rd)
to picuture or represent in the mind; imagine; conceive (12th)

Model - a representation, generally in miniature, to show the structure or serve as the copy of something (2nd)

Fantasy - imagination, esp. when extravagant and unrestrained (1st)
a supposition based on no solid foundation (6th)

Plausible - having an appearance of truth or reason; seemingly worthy of approval or acceptance; credible; believable (1st)

Possible - that may or can exist, happen be done or used, etc. (1st)

Probable - likely to occur or prove true (1st)

Preferable - more desireable (2nd)

Future Time Perspective - 1. "outlook" - breadth or scope of future images
2. "forelook" - length of future time frame

Futuring - the process of conceptualizing and anticipating the future, future imaging

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